

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original): A method of emulating a device by a node on a serial bus comprising the steps of:

- creating a virtual device object for the device;
- responsive to the step of creating the virtual device object, loading an emulation driver for the device; and
- dynamically exposing, on the serial bus, an emulated device functionality.

Claim 2 (original): The method of claim 1 further comprising a step of: enumerating, by the node, at least one other node on the serial bus.

Claim 3 (original): The method of claim 2 further comprising the steps of:

- creating, by the at least one other node, a physical device object for the device; and
- loading a device driver for the device.

Claim 4 (original): The method of claim 1 wherein the step of creating the virtual device object is done by a bus driver.

Claim 5 (original): The method of claim 4 wherein the bus driver is an IEEE 1394 compliant bus driver.

Claim 6 (original): The method of claim 1 wherein the device is capable of being plugged natively into the serial bus.

Claim 7 (original): The method of claim 1 wherein the serial bus is an IEEE 1394 compliant serial bus.

Claim 8 (original): The method of claim 1 wherein the virtual device object can exist independent of bus events.

Claim 9 (original): The method of claim 8 wherein the bus events include at least one of: addition of the device and removal of the device.

Claim 10 (original): The method of claim 1 wherein the node is a personal computer running a general purpose operating system.

Claim 11 (original): The method of claim 1 wherein the step of exposing the emulated device functionality is done by configuration memory.

Claims 12-16 (canceled)

Claim 17 (original): A method for implementing an emulation driver comprising:
modifying a configuration memory;
issuing a bus reset; and
allocating node address space to intercept requests to an emulated device register.

Claim 18 (original): The method of claim 17 wherein modifying a configuration memory further comprises:

submitting a request to modify by a virtual device object;
adding a unit directory to the configuration memory; and
altering information necessary to expose an emulated device functionality.

Claim 19 (currently amended): A system for emulating a device, comprising in combination:
a serial bus; and
a node connected to the serial bus which ~~will~~ is configured to emulate at least one device. |

Claim 20 (original): The system of claim 19 wherein the serial bus is an IEEE-1394 compliant serial bus.

Claim 21 (original): The system of claim 19 wherein the node further comprises:

- a configuration memory compliant with IEEE-1212 standard in which device functionality will be stored; and
- a layered protocol stack.

Claim 22 (original): The system of claim 21 wherein the layered protocol stack furthers comprises:

- a bus driver for controlling bus communications;
- at least one device object in communication with the bus driver for representing the at least one device; and
- at least one device driver in communication with the at least one device object for interfacing with the at least one device.

Claim 23 (original): The system of claim 22 wherein the bus driver is an IEEE-1394 compliant bus driver.

Claim 24 (original): The system of claim 22 wherein the device object is a virtual device object.

Claim 25 (original): The system of claim 22 wherein the device driver is a virtual device driver.

Claim 26 (original): The system of claim 19 which further comprises a physical device coupled to the node.

Claim 27 (currently amended): A device ~~for configured to emulate~~emulating at least one other device comprising:

- a configuration memory compliant with IEEE-1212 standard; and

a layered protocol stack in communication with the configuration memory.

Claim 28 (currently amended) The device of claim 27 wherein the layered protocol stack furthers comprises:

a bus driver;

at least one device object in communication with the bus driver for representing the at least one other device to be emulated; and

at least one device driver in communication with the at least one device object for interfacing with the at least one other device to be emulated.

Claim 29 (original): The device of claim 27 wherein the bus driver is an IEEE-1394 compliant bus driver.

Claim 30 (original): The device of claim 27 wherein the device object is a virtual device object.

Claim 31 (original): The device of claim 27 wherein the device driver is a virtual device driver.

Claim 32 (original): The device of claim 27 wherein the configuration memory has at least one unit directory.

Claim 33 (original): A computer-readable medium comprising instructions that, when executed by a computer on which a device will be emulated, perform the steps of:

creating a virtual device object;

loading an emulation driver; and

dynamically exposing, on a serial bus, a device functionality.

Claim 34 (original): The computer-readable medium of claim 33 wherein the computer instructions when executed further perform the step of causing enumeration, by the computer, of at least one other node on the serial bus.

Claim 35 (original): The computer-readable medium of claim 34 wherein the enumeration is caused by a bus reset.

Claim 36 (original): The computer-readable medium of claim 33 wherein the serial bus is an IEEE-1394 compliant serial bus.

Claim 37 (new): The method of claim 33, wherein the step of creating a virtual device object is performed without the device being connected to the node.

Claim 38 (new): The method of claim 1, wherein the step of creating a virtual device object for the device occurs without the device being connected to the node.

Claim 39 (new): The device of claim 28, wherein the at least one other device to be emulated is not coupled to the bus driver.

Appln. No.: 09/559,531
Amendment dated August 13, 2004
Reply to Office Action of May 13, 2004

Amendments to the Drawings:

Please replace the original drawing sheet containing Fig. 1 with the attached replacement sheet. Applicants have renumbered various duplicative reference numerals in Fig. 1. Also, applicants have corrected the margins to satisfy U.S. Patent and Trademark Office requirements.

Attachment: Replacement Sheet